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BOLETIN
DE
ENTOMOLOGIA VENEZOLANA

Vol. I — 30 de Agosto de 1942 — No. 3

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CARACAS
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1942

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LISTA PROVISIONAL DE LOS TABANIDOS DE VENEZUELA (*)

por

L. L. Pechuman

210 W. Center St. Medina, N.Y.

—

TABANIDAE

SILVINAE Enderlein 1922.

Chrysops laeta Fab.
III. Mag., II, 267, 1803.

leucospilus Wied.
Auss. Zweifl. Ins., I, 202, 1805.

soror Krob.
Konowia IV, 245, 1925.

tristis (Fab.)
Ent. Syst. Suppl., 567, 1798.

variegata (de Geer).
Mem. Hist. Ins., VI, 230, 1776.

variegata var *venezuelensis* Krob.
Konowia, IV, 235, 1925.

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* Esta lista fué preparada en la Universidad de Cornell en 1939. Desde entonces se han hecho colecciones en varias partes de Venezuela y sobre éstas se informará oportunamente.

PANGONINAE Lutz 1913.

Scione aurulans (Wied.)
Auss. Zweifl. Ins., II, 620, 1830.

immaculata Krob.
Stett. Ent. Zeit., XCI, 148, 1930.

minor (Macq.)
Dipt. Exot. Suppl., II, 13, 1847.

rufipes Krob.
Stett. Ent. Zeit., XCI, 147, 1930.

Listriosca longipennis (Ric.)
Ann. Mag. N. H., (7). IX, 433, 1902.

Listrapha viridiventris Macq.
Dipt. Exot. Suppl., I, 108, 1838.

Esenbeckia diaphana (Schiner).
Nov. Dipt., 99, 1868.

ferruginea (Macq.)
Dipt. Exot., I, 179, 1839.

fuscipennis (Wied.)
Auss. Zweifl. Ins., I, 93, 1828.

prasiniventris (Macq.)
Dipt. Exot. Suppl., I, 29, 1845.

semiviridis Ric.
Ann. Mag. N. H., (7), VIII, 181, 1901.

subvaria (Walker).
List. Dipt. B. M., I, 150, 1848.

testaceiventris (Macq.)
Dipt. Exot. Suppl., III, 9, 1847.

translucens (Macq.)
Dipt. Exot. Suppl., I, 26, 1845.

Fidena auricauda (End.)
Mitt. Mus. Berl., XI, 276, 1925.
flavipennis Krob.
Zool. Anz., XCV, 24, 1931.

ochracea Krob.
Mitt. Mus. Hamb., XLIV, 175, 1930.

LEPISELAGINAE Lutz 1913.

Lepiselaga crassipes Fabr.
Syst., Antl., 108, 1805.

Selasoma nigrocaeruleum Rond.
Nov. Ann. Sc. Sc. Nat. Bol., (3) II, 191, 1850.

DIACHLORINAE Lutz 1913.

Acanthocera trigonifera Schiner.
Nov. Dipt., 95, 1868.

Diachlorus bicinctus (Fabr.)
Syst. Antl., 102, 1805.

STENOTABANINAE Krober 1929.

Boldodimyia bicolor Big.
Wein. Ent. Zeit., XI, 162, 1892.

Stenotabanus comitans Wied.
Auss. Zweifl. Ins., I, 175, 1828.

longipennis Krob.
Enc. Ent. Dipt., V, 125, 1929.

obscurus Krob.
Auss. Zweifl. Ins., V, 124, 1929.

BELLARDIINAE Enderlein 1922.

Psalidia ocellata End.
Mitt. Mus. Berl., XI, 393, 1925.

Bellardia oculus (Walker).
List. Dipt. B. M., I, 158, 1848.

TABANINAE Lutz 1913.

Stibasoma fulvihirtum (Wied.)
Auss. Zweifl. Ins., I, 155, 1828.

fulvihirtum var *dives* Walker.
List. Dipt. B. M., I, 166, 1848.

theotaenia (Wied.)
Auss. Zweifl. Ins., I, 136, 1828.

triste (Wied.)
Auss. Zweifl. Ins., I, 164, 1828.

Dichelacera damicornis (Fabr.)
Syst. Antl., 101, 1805.

marginata Macq.

Dipt. Exot. Suppl., II, 14, 1847.

submarginata Lutz.
Mem. Ins. Os. Cruz, VII, 86, 1915.

testacea Macq.

Dipt. Exot. Suppl., I, 29, 1845.

Dicladocera acheronitens Krob.
Rev. Ent., I, 403, 1913.

caloptera (Schiner).
Nov. Dipt., 91, 1861.

curta Krob.
Rev. Ent., I, 408, 1931.

maculata (Macq.)
Dipt. Exot. Suppl., I, 171, 1845.

minos (Schiner).
Nov. Dipt., 88, 1868.

sulphurea Krob.
Rev. Ent., I, 408, 1931.

Chelommia bigoti Bellardi.
Ditt. Mess., I, 58, 1859.

cineraria (Wied.)
Auss. Zweifl. Ins., I, 121, 1828.

discifera Walker.
Ins. Saund., I, 35, 1850.

peruviana Macq.
Dipt. Exot. Suppl., III, 13, 1847.

Amphichlorops planiventris Wied.
Auss. Zweifl. Ins., I, 139, 1828.

quadrimaculata Macq.
Dipt. Exot. Suppl., I, 39, 1845.

unicolor Wied.
Auss. Zweifl. Ins., I, 141, 1828.

venenata (Ost. Sak.)
Biol. C. A. Suppl., I, 54, 1886.

Catachlorops capreolus (Wied.)
Auss. Zweifl. Ins., I, 149, 1828.

potator (Wied).
Auss. Zweifl. Ins., I, 162, 1828.

Stypommia hypographa Krob.
Zool. Anz., LXXXVI, 252, 1930.

Leucotabanus albicans (Macq.)
Dipt. Exot. Suppl., I, 37, 1845.

leucaspis (Wied.)
Auss. Zweifl. Ins., I, 179, 1828.

sarcophagoides Lutz.
Est. Zool. Paras. Venez., 58, 1928.

Tabanus (Neotabanus) amplifrons Krob.
Rev. Ent., III, 354, 1933.
carneus Bellardi.
Ditt. Mess., I, 62, 1859.

curtus Hine.
Ohio J. Science, XX, 190, 1920.

lineola Fabr.
Ent. Syst., IV, 369, 1794.

plangens Walker.
List Dipt. B. M., V, 199, 1854.

Tabanus (Lophotabanus) druyvesteijni Szilady.
Biol. Hung., I, (7), 26, 1926.

imponens Walker.
Tr. Ent. Soc. Lond., IV, 112, 1857.

ferrifer Walker.
Ins. Saunds., I, 30, 1857.

lutzi Krob.
Zool. Anz., XL, 83, 1930.

olivaceiventris Macq.
Dipt. Exot. Suppl., II, 18, 1847.

xipe Krob.
Zool. Anz., LXXXVII, 123, 1929.

Tabanus (Chlorotabanus) mexicanus Linn.
Syst. Nat., XII ed., II, 1000, 1767.

Tabanus (Hybostraba) guttiventris End.
Mitt. Mus. Berl., II, 356, 1925.

Tabanus (Poeciloderas) picturatus Krob.
Zool. Anz., XCIV, 75, 1931.

quadripunctatus Fabr.
Syst. Antl., 99, 1805.

quadripunctatus var *amabilis* Walker.
List. Dipt. B. M., I, 154, 1848.

schineri Krob.
Zool. Anz., XCIV, 87, 1931.

Tabanus (Agelanius) columbianus Enderl.
Mitt. Mus. Berl., XI, 374, 1925.

ruficolor Krob.
Rev. Ent., IV, 302, 1934.

Tabanus (Macrocornus) captiropterus Krob.
Zool. Anz., LXXXVII, 10, 1930.

Tabanus (Phaeotabanus) fascipennis (Macq.)
Dipt. Exot. Suppl., I, 35, 1845.

semiflavus Krob.
Zool. Anz., LXXXVI, 288, 1930.

Tabanus (Tabanus) cajennensis Fabr.
Ent. Syst., IV, 366, 1794.

desertus Walker.
New. Zool., VIII App., 69, 1850.

importunus Wied.
Auss. Zweifl., I, 127, 1828.

serenus Krob.
Stett. Ent. Zeit., XCII, 304, 1931.

venezuelensis Krob.
Stett. Ent. Zeit., XCII, 303, 1931.

TWO NEW SPECIES OF DRAGONFLIES FROM VENEZUELA

By

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In a small collection of dragonflies recently brought to me from Venezuela by Sr. G. Vivas-Berthier there are two species that appear to be new to science, and several others that have not been reported from that country hitherto. There are also a few nymphs of forms quite unlike the nymphs at present known, whose characterization will have to await the rearing of some of them to the determinable adult stage. The two new species are described herewith.

Micrathyria carlota sp. nov.

Length 31 mm.; abdomen 21; hind wing 23, male and female.

This is a handsome, clear-winged, blackish species, with a shining metallic green spot on its head and a pair of large and conspicuous yellow spots on the dersum of the seventh abdominal segment. The labium is yellow with a large median bell-shaped blackish area that runs out to right and left on its front margin. The labrum is narrowly margined with black. The face is elsewhere entirely yellow, including the sides of the post-clypeus and fronts. Both front and rear of the head are thinly besprinkled with whitish hairs. The top of the frons and all the vertex are shining metallic green. Antennae black; occiput black; rear of the head black except for a pair of small yellow sub-median spots behind the occiput.

Prothorax wholly black above, its elevated and bilobed hind margin fringed with long silky hairs. Front of synthorax

black with three abbreviated, narrow yellow stripes: a middle hair line stripe on the carina and a wider antehumeral pair farther out; the latter divergent at their anterior ends. There are also short dashes of yellow beside the crest on each side, one below and one above its serrated margin. On the pale ground of the sides of the thorax there are the usual three lateral stripes, all confluent at their ends, forming an intricate pattern. The foremost one borders the humeral suture behind and overlaps it near its upper end. The Y -shaped middle one at the spiracle is broadly dilated and fused with the first at its upper end. The third stripe is narrowed below, where it forms something of a broken V-mark with a heavier stripe on the metepimeron.

The legs are black beyond the short basal segments. The wings are hyaline with only a slight flavescence at the extreme base. The nodal crossveins are 7½:7 and 7:7 in fore and hind wings respectively. The stigma is distinctly longer on the front than on the rear margin. Vein Cu_{1a} arises from the outer side of the hind wing triangle. Vein A_3 arises beyond the anal crossing, and behind. A_3 there are two cell rows next the wing margin most of the way. The radial planate in the fore wing definitely circumscribes four or five cells, and there are but two crossveins behind the stigma.

The abdomen is black with small markings of bright yellow. Segment 1 is pale with blackish hind border; 2 is darker and has a pair of yellow roundish spots on the dorsum; 3 and 4 have two spots in line each side, and 5 again has only the basal spot. Segments 6 and 8 to 10 and appendages are all black; 7 has a conspicuous yellow quadrate pair that covers most of its dorsum.

The caudal appendages are about three times as long as the 10th segment, subcylindric or slightly club-shaped in dorsal view, with three minute denticles showing on the outer side just beyond midway their length. They are rounded obliquely to their upturned tips. In lateral view the inferior margin of the superiors is uparched in its basal half and very convex thereafter to the tip. Its outer surface is hairy. In

this lateral view two teeth appear, out of line longitudinally tho both are inferior: one at half length toward the inner side, and the other of three fourths length and at the outer side. The latter is the last of a line of five denticles obliquely placed, starting with the three seen from above, and spiraling obliquely downward until the last appears one from the side. The inferior appendage is broad at the base, then narrowed to an elongate triangle, truncate at the tip and notched there, with two terminal upturned teeth beside the notch.

There is a single erect, sharp median spine on the sternum of the basal abdominal segment. The prominent but widely divided lateral lobes of the anterior lamina bear each four spines on the convex inferior margin. These lobes are on a level with the genital lobes of the second segment and are less prominent than the hamules. The hamules are stout and prominent; each is thick at the top and C-shaped, with the top of the C hood-shaped and the other end terminating in a recurved spine. The genital lobe is wider than high, dilated and truncated at the end.

The female is very similar to the male in pattern but much paler, and with hardly any metallic coloration on the top of the head. The yellow spots on the seventh segment are even larger than in the male being prolonged at their outer posterior angle.

The subgenital plate is very short, hardly more than a fifth as long as the sternum of the ninth segment. It is deeply divided into a pair of narrow transverse plates separated by a median quadrangular notch, each division bare on its square inner corner, but on its rounded outer corner armed with a row of three or four spinules. The sternum of the ninth segment is produced posteriorly in a semicircular lobe that reaches almost to the level of the tip of the tenth segment.

Five males and four females from Laguna La Ciénega, Estado Guárico, collected by Sr. G. Vivas-Berthier on August 25th 1941. One pair in the Museo de Ciencias Naturales of Caracas; the others in the Cornell University Collection.

This species is nearest *Micrathyria dentiens* Calvert *(Annals of the Carnegie Museum* 6:236 Plate VII, fig. 130), from Bahia, Brazil. It agrees fairly with that species in color pattern, and in having a three celled fore wing triangle. It differs in minor points of coloration and in details of the shape of the superior caudal appendages of the male: they are more sharply upturned at the tip: the tooth nearest the tip is the outermost member of a spirally curving row of five denticles. Also, there is a midventral spine on the sternum of the basal abdominal segment.

Enallagma ypsilon sp. nov.

Length 39 mm.; Abdonmen 26; hind wing 19.

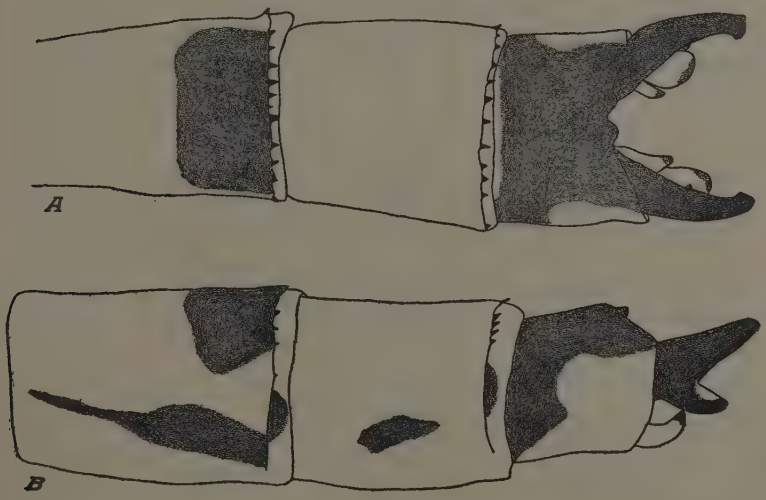
This is a slender orange or luteous species, narrowly striped with black. Head wholly yellow beneath. Labrum, anteclypeus and front of post clypeus fuscous. Face luteous up to the antennae. Top of head with a broad black band from eye to eye, its front margin trilobed by projections that include the base of the antennae and the median ocellus. Post ocular spots very large and broadly conjoined across the occiput, the total luteous area being about equal to that of the black crossband. Antennae black. Front and rear of head thinly beset with soft whitish hairs.

Prothorax black above, front and hind lobes each traversed by an irregular yellowish line: median lobe with a pair of large spots of the same color. Synthorax mainly luteous, its middorsal stripe very narrow, less than half as wide as the bordering luteous, its sides parallel and conjoined at the ends with hairlines of black on collar and carina. The black humeral stripe is still narrower, also parallel-sided, narrowed and isolated at both ends. Sides wholly luteous except for a touch of black near the upper end of the third lateral suture. The subalar carina is black-edged only as far to rearward as the midlateral suture.

Legs black beyond the short basal segments except for the orange on the outer side of all tibiae; claws yellow with

black tips. Wings hyaline. Postnodal crossveins 10 and 9 in fore and hind wings respectively. Stigma wider in front than on the rear margin, not wholly covering one cell.

Abdomen blackish above and pale beneath. Segment 1 pale with a black mark each side; 2 mostly pale, with a black median dash each side, a black dorsal cross bar at rear of the dash, and another bar across the apex of the segment; 3 and 4 have the apical third or fourth of the dorsum overspread with a black triangle, widening to rearward; on 6 and 7 the black area successively increases; 8 is blue above with a quadrangular black spot covering its apical third; 9 blue; 10 blackish above, pale beneath. The caudal appendages are longer than 10, deeply forked, with the upper branch black



Enallagna ypsilon nov. sp. Abdominal segments 8-10 of male, (A) Dorsal view, (B) Lateral view.

the lower one luteous. Viewed from above the upper branch of each tapers to a rounded point with a little tooth at its tip on the inner side. At two thirds its length another little tooth appears well down on the concave inner side. And below the

tooth the blunt flat tip of the incurving inferior lower branch appears; also, the slenderer tip of the inferior appendage of the same side.

A single male specimen from El Valle near Caracas, collected on May 2nd by Sr. G. Vivas-Berthier.

The deeply forked superior appendages of the male in this species come nearest in form to a perfect letter Y; whence the specific name. It is not very closely allied to any known species but is perhaps nearest *Enallagma praevarum* Selys differing strikingly in coloration, and it is much more slender. In these respects it is more like *E. antennatum* Say, but is much larger and the appendages are very different.

Sr. Vivas-Berthier sent me also some specimens of *Telebasis corallina* Selys and *Lestes lineata* Selys, both new records for Venezuela, collected at Laguna La Ciénega, August 25th 1941.

RESUMEN

En una pequeña colección de Odonata hecha por el Sr. Gastón Vivas-Berthier en los llanos del Guárico y el Valle de Caracas, se encontraron dos especies nuevas: *Micrathyria carlota* Needham y *Ennallagma ypsilon* Needham que aquí se describen.

THE GENUS *THAUMATOMYRMEX* MAYR WITH DESCRIPTION OF A VENEZUELAN SPECIES (HYM.: FORMICIDAE)

By

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Ants of the genus *Thaumatomyrmex* have remained among the rarest of ants since the genus was first described in 1887. Although they are among the most striking and easily recognized ants because of their remarkable spinose mandibles, not a dozen specimens have been recorded and these only workers. The genus is exclusively neotropical and the five known species have been described from one or two workers found in Cuba, Honduras, British Guiana, Trinidad, Brasil and Bolivia.

Described below is a sixth species which I took in Venezuela in an unusual habitat, a bird's nest on a tiny island submerged at high water in the Orinoco Delta.

Their rarity and discontinuous distribution suggest that ants of the genus *Thaumatomyrmex* are archaic relicts. They belong to the primitive family *Ponerinae* which itself indicates antiquity. My British Guiana and Venezuelan ants were taken in rain forest, the Cuban and Honduran specimens doubtless came from a similar habitat, as may have come the Brasilian records, and my Trinidad worker was found in bamboo of second-growth forest ("lastro") at the foothills of the Northern Range which is covered with rain forest. Judging from other ants and other animals of the neotropical rain forest, this has been a stable and persistant habitat for a very long time.

Although the Venezuelan worker was found in a bird's nest this species is probably terrestrial like the other species and had merely adapted itself to temporary flooded conditions during high water in the Delta. The food habits of none of the species are known but the shape of the mandibles suggests that they are used for capturing other arthropods. The occurrence of the Venezuelan worker in a bird's nest also occupied by a colony of *Camponotus* raises the possibility of it preying on other ant broods, especially larvae and pupae which could be grasped easily and punctured with the spinose mandibles.

The six species of *Thaumatomyrmex* differ but slightly and form a homogeneous group differing markedly from all other ants. When Mayr described the first species and the genus in 1887 (Verh. k. k. Zool. - bot. Ges. Wien, 37:530-532) he stated that the genus seemed near no other ponerine genus. Emery in 1901 placed it in the tribe *Thaumatomyrmii* (Ann. Soc. Ent. Belg. 45:36) and was followed by Ashmead (Canadian Ent., 1905, p. 392) who placed it in the Family *Poneridae,* Subfamily II - *Pachycondylinae,* Tribe III - *Cylindromyrmicini,* which consisted of *Cylindromyrmex* and *Thaumatomyrmex.* This ill-advised attempt by one unfamiliar with world ants was justly criticized by Emery in 1906 (Zool. Anz. 29:717-718) on the grounds that the mandibles of the two genera are utterly different. In Wheeler's "Ant Book" (reprints of 1913 and 1926, p. 135) curiously enough this genus was placed in Tribe 3, *Ectatommii,* although in 1922 (Bull. Amer. Mus. Nat. Hist., 45:637, 644) he followed Emery's Genera Insectorum allocation. In 1911 (Genera Insectorum, Fasc. 118, p. 48) Emery placed *Thaumatomyrmex* in a tribe by itself, *Thaumatomyrmicini,* and this classification is followed by the writer.

Ants of this genus are medium-sized (3.8 - 4.75 mm.) ponerine ants with a high petiolar node, a well-developed sting and a black color but are at once recognized by their mandibles. These are narrow and arcuate with three spiniform teeth of which the apical tooth is longest. Other characters include frontal lobes distinct and raised, 12-jointed antennae

widely separated, large, convex eyes situated close to the mandibular insertions,distinct pro-mesonotal impression, 1st gastric segment markedly larger than the following segments, tibiae with a single large, pectinate spur, claws simple, pilosity of sparse, long, appressed hairs. The differences between the species lie chiefly in the proportions of the teeth, width of the head compared with its length, convexity of the pronotum and mesonotum, angularity or lack of angularity between the epinotal basal and declivous surfaces, shape of the petiolar node and development of striation or punctation. These differences are perfectly distinct yet no species varies so much that it might be placed in any other genus, for there is none near it.

The species are as follows, all known only by the worker;

T. mutilatus Mayr, 1887, Verh. Zool. - bot. Ges. Wien, 37:531-532, worker; Emery, 1894, Berl. Ent. Zeitschr, 59:38, fig., worker (not seen); Emery, 1911, Genera Insectorum, Formicidae, Ponerinae, Fasc. 118, pp. 48-49, Pl. 2, Figs. 5. 5b; Mann, 1922, Proc. U. S. Nat. Mus., 61:4; Borgmeier, 1923, Arch. Mus. Nac. Brasil, 24:62; Wheeler, 1926, "Ants", p. 17, fig. 2; Creighton, 1928, Psyche, 35:162-6; Weber, 1939, Ann. Ent. Soc. Amer.; 32:92-3, 98-9.

T. ferox Mann, 1922, Proc. U. S. Nat. Mus., 61:3-4, Fig. 1; Creighton, *loc. cit.*; Weber, *loc. cit.*

T. cochlearis Creighton, 1928, Psyche, 35; 162-166, Fig. 1; Wheeler, 1937, Bull. Mus. Comp. Zool., 81:445; Weber, *loc. cit.*

T. atrox Weber, 1939, Ann. Ent. Soc. Amer., 32:92-3, 98-9, Fig. 3.

T. manni Weber, 1939, Ann. Ent. Soc. Amer., 32:99.

T. paludis, sp. nov.

They may be separated by means of the following key which is adapted from that in my 1939 paper:

1. Apical teeth of closed mandibles not exceeding lateral margins of head..... 2
   Apical teeth of closed mandibles exceeding lateral margins of head..... 4

2. Epinotum angulate in profile. Cuba.....
   .....*cochlearis* Creigton.
   Epinotum convex in profile..... 3

3. Epinotum in profile low, evenly descending to ventral margin, anterior and dorsal margin of 1st gastric segment forming in profile an approximate right angle. Venezuela.....*paludis*, sp. nov.
   Epinotum in profile high, passing ventrally into a second and smaller convexity, anterior and dorsal margins of 1st gastric segment forming in profile a marked acute angle. Brazil.....*mutilatus* Mayr.

4. Lateral margins of head strongly diverging anteriorly. Bolivia .....*manni* Weber.
   Lateral margins of head moderately divergent..... 5

5. Third tooth of closed mandibles barely reaching center of clypeus. Honduras.....*ferox* Mann.
   Third tooth of closed mandibles distinctly exceeding center of clypeus. British Guiana and Trinidad.....
   .....*atrox* Weber.

Thaumatomyrmex paludis, sp. nov. (Figs. 1 and 2)

Worker. Length with head and thorax extended 3.8 mm. (of thorax excluding "neck" 1.1 mm.) Head in front view, excluding mandibles, as long as broad in front of eyes, occipital margin convex, sides back of eyes evenly rounded into occiput; surface of clypeus concave, its anterior margin convex; eyes large, 0.27 mm. in diameter when viewed from in front, situated closer to the mandibular insertions than their

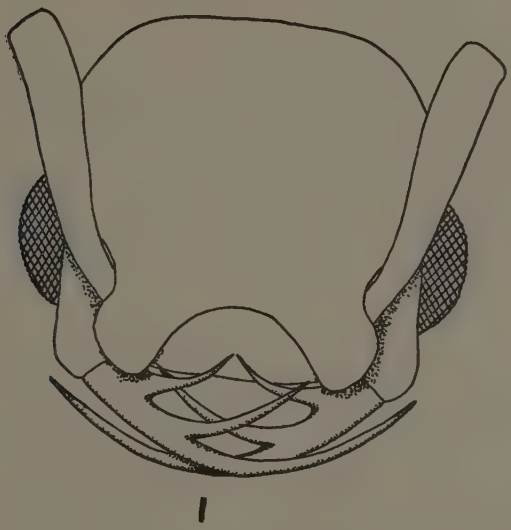

Fig. 1. — Head of *Thaumatomyrmex paludis*, sp. nov.
Fig. 2. Thorax and petxiole in side view of same.

diameters; frontal lobes conspicuous, obliquely raised, convex, extending slightly in front of the antero-lateral angles of the head; mandibles with three teeth in the form of narrow, acute spines, the apical tooth barely reaching the sides when the mandibles are closed, the median tooth not quite reaching the opposite frontal lobe, and the basal tooth barely reaching middle of clypeus; antennal scape exceeding occipital margin by less than its distal diameter, funicular joints 2-10 broader than long. Thorax from above, excluding "neck", twice as long as broad, sides of pronotum slightly convex, rest of thoracic sides subparallel; in side view pronotum evenly convex, promesonotal impression sharp and acute, meso-epinotum forming a broad, even convexity. Petiole in side view conic, biconvex, apex acutely rounded, from above 1.7 times broader than long, excluding petiole, and with sides obtusely

angular. Basal segment of gaster from above slightly broader than long, sides and anterior margin convex. Legs slender, moderately short.

Smooth and shining except for base of mandibles, frontal lobes and margin of antennal scrobes being finely striate. Front of head back of clypeus with about a score of reclinate to appressed, mostly obtuse, coarse hairs or bristles, similar hairs more numerous on clypeus, and sparsely on rest of body, antennae and tarsi with short, appressed hairs moderately abundant, femora and tibiae with longer and sparser hairs, no pubescence visible under ordinary magnifications.

Vitreous black; mandibles, antennae, tarsi and ends of femora and tibiae yellowish brown to medium brown. Hairs honey yellow.

Holotype: one worker (Nº VI8a) which I took February 2, 1935 in the Orinoco Delta, Venezuela.

This species has distinctly smaller eyes than *T. mutilatus*, has a more evenly convex pronotum, lower epinotum, and in side view, the anterior and dorsal surfaces of the 1st gastric segment meet at an approximately right, instead of a distinct acute angle. It differs markedly from *T. cochlearis* in reduced sculpturing of head, having longer antennal scapes, more rounded occipital margin, rounded instead of angulate epinotum and much more compressed petiole. The Venezuelan species is readily told from *T. ferox* by its shorter mandibular teeth, shorter antennal scapes, convex pronotum dorsally and petiole more acute at apex. The holotype of *T. atrox* is distinctly larger (thorax length, excluding "neck", 1.3 mm.) with longer mandibular teeth, larger eyes (0.29 mm. diameter), broader head, has a small angularity in the promesonotal impression, a much more abruptly descending epinotum and a petiolar node much blunter at apex. *T. manni* has a much broader head with longer mandibular teeth.

Biology

The ant was taken opposite the east side of Isla Tórtola on a small island roughly 900×200 meters. The island was separated from a larger island by moderately deep water of a "caño" and was submerged at high water to the tops of the low trees. *Cecropia* and dense grass occupied the parts of the island not forested. A small *Crematogaster* clearly was the dominant ant and was abundant. *Pseudomyrma* occurred on the bushes and trees, *Azteca* in *Cecropia* and *Camponotus (Myrmosphinctus) sexguttatus* (Fabr.) and *C. (Myrmobrachys) zoc* Forel nested in hollow twigs. The *Thaumatomyrmex* was taken in an abandoned birds nest which was also occupied by a colony of the *Camponotus sexguttatus,* brood of the latter being in hollow twigs comprising part of the nest. Tiny (1.2 mm.) workers of *Brachymyrmex,* an ordinarily hypogaiec genus, and a worker *Odontomachus haematoda* L., a species usually terrestrial, were found on or in the nest. In the same tree but above the nest were colonies of *Crematogaster* and *Camponotus zoc.*

RESUMEN

Hormigas del género *Thaumatomyrmex* han quedado entre las más raras desde que se describió el género en 1887. Aunque estas hormigas se reconocen fácilmente por sus mandíbulas espinosas, apenas si se han obtenido una docena de ejemplares, todos de la categoría de trabajadoras. El género es exclusivamente del neotrópico, habiendo sido ya descritas cinco especies provenientes de Cuba, Honduras, Guayana Inglesa, Trinidad, Brasil y Bolivia. Aquí se describe la sexta especie: *T. paludis* Weber, proveniente de la Isla Tórtola del Delta Orinoco, encontrada en un nido de ave. Quizás esta adaptación sea debida a que la isla queda sumergida durante los pleamares. El mismo nido contenia una colonia de *Camponotus* cuyas larvas posiblemente servían de presa a los *Thaumatomyrmex.*

NEW SPECIES OF VENEZUELAN HESPERIIDAE (LEPIDOPTERA - RHOPALOCERA)

By

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A small number of *Hesperiidae* have been received from Pablo J. Anduze, all of which were collected by himself and among these are many species not heretofore definitely recorded from Venezuela, together with the four described below as new. The unrecorded species will be included in the forthcoming Catalogue of Venezuelan Hesperioidea.

All of the type material of the four species here described is contained in the collection of the American Museum of Natural History, in New York City.

Pellicia rimana new species.

Male. (Fig. 1). — Upper side of both wing dark rufous brown crossed by blackish brown bands. Primaries with three minute hyaline subapical spots in an outwardly oblique straight line; an outer marginal band of short, elongate spots; a short band of elongate spots from the costal margin around the end of the cell. The upper spots enclosing in their tips the three subapical spots; a broad, somewhat irregular band from the costal margin across the cell to the inner margin, tapering. from vein 2 to a point on the inner margin, this band and the previolusly mentioned one indistinctly fuse below the cell; a short sub-basal band. The outer margin of these wings is somewhat rounded but the apex is pointed. Fringes concolorous.

Secondaries. Basal, discal and submarginal bands, the discal band rather narrow. Costal margin paler. A pale brown hair tuft from the base of the costal margin. Fringes concolorous, a little mixed with paler brown. The outer margin is a little sinuous above the anal angle.

Beneath. Both wings a little paler than above. Primaries with the inner margin below vein 2 and the basal area below the costa to the end of the cell a little paler than the rest; the outer marginal band repeated, the next band very narrow and continued to vein 1; the band across the cell is Y-shaped and ends on vein 2.

Secondaries. Marginal, discal and sub-basal bands, the marginal band of somewhat lunate spots; the four lower spots of the discal band have pale centers; there is a pale, vertical bar through that part of the sub-basal band which lies in the cell. There is the usual swollen area at the junction of veins 6 and 7.

Top of head and palpi fulvous brown; thorax and abdomen dark brown. Beneath the palpi are fulvous brown; pectus thorax and abdomen brown. Antennae black above, brownish beneath.

Expanse. 36 mm.

Type material. Holotype male, Akuriman, Venezuela, October, 1940.

In general appearance this species resembles *bromias* Godman & Salvin but the male genitalia differs from that species.

Pellicia kuma new species (Fig. 2).

Male. (Fig. 2). — Upper side of both wings black, fringes concolorous mixed with a little paler browinsh.

Secondaries. The outer margin rounded, a rather long, less dense than usual blackish hairtuft directed upward from the base of the costal margin, covered by the primaries and seen from the under side.

Beneath. Both wings a little paler than above. The inner margin of the primaries to the middle of interspace 1 pale brownish.

Secondaries. The basal three quarters black, the outer quarter a little paler through which runs a submarginal band of black spots. There is no swelling at the junction of veins 6 and 7.

Top of head, palpi, thorax and abdomen black on both sides. The palpi beneath black with some paler brownish hairs. Antennae black on both sides.

Expanse. 38 mm.

Type material. Holotype male, Surukum Basin, near Paraitepuy, 100 miles east-southeast of Akuriman, Venezuela.

The more rounded secondaries and the lack of the swollen area at the junction of veins 6 and 7 on the under side of these wings, together with the hair tuft being directed upward instead of in the normal position, obliquely downward, serve to distinguish this species from the other very dark species of *Pellicia* but the most certain means of identification lies in the form of the male genitalia.

Tigasis akuris new species.

Male. (Fig. 3). — Upper side of both wings brown. Primaries with a minute, hyaline subapical spot in interspace 6 and two hyaline discal spots, one small rounded on in intespace 6 and a narrow, elongate one in interspace 2 placed obliquely so as to point almost directly toward the spot in interspace 3; a minute hyaline spot in the upper part of the cell a little before the apex. The stigma is very indistinct. Fringes concolorous.

Beneath, not much paler than above. Primaries with all the spots repeated and a diffuse spot in interspace 1.

Secondaries with a discal band of indistinct, small fulvous spots and a similar one in the end of the cell.

Top of head and palpi blackish brown with some dark fulvous scales. Thorax and abdomen blackish with some brownish hairs. Beneath palpi dark fulvous and black; pectus and thorax dark fulvous brownish, abdomen dirty whitish with a dark central line. Antennae black above and beneath except the club which is fulvous brown.

Expanse. 36 mm.

Type material. Holotype male, Akuriman, Venezuela, October 1940.

This insect has a superficial resemblance to some of the species in the genera *Cobalus, Oeonus* and *Mucia* but may be distinguished from *Cobalus* which has no stigma and from the last two by the form of the stigma, although it is very indistinct in *akuris. Zalates* Godman, the type of the genus, has no hyaline spots on the primaries. The form of the genitalia of *akuris* is very similar to that of *zalates.*

Papias venias new species.

Male. (Fig. 4). — Upper side of both wings brown. Primaries with three small subapical spots, of which only the lower one is hyaline and very distinct; two small, hyaline discal spots, one in interspace 2 under the rise of vein 3 and the other in interspace 3 under the end of the cell. Fringes slightly paler.

Secondaries immaculate. Fringes slightly paler.

Beneath. Both wings a little paler than above. Primaries with the inner margin a little paler. Spots of the upper side repeated.

Secondaries with a dim discal band of slightly paler spots and a similar spot in the lower end of the cell, all of which are barely visible and become entirely lost in flown individuals.

Top of head blasckish and fulvous brown. Thorax and abdomen brown. Beneath the palpi fulvous brown and blackish. Pectus and thorax grayish brown. Abdomen dirty whitish with a dark central line. Antennae black above, beneath brownish except the upper half of the club which is black.

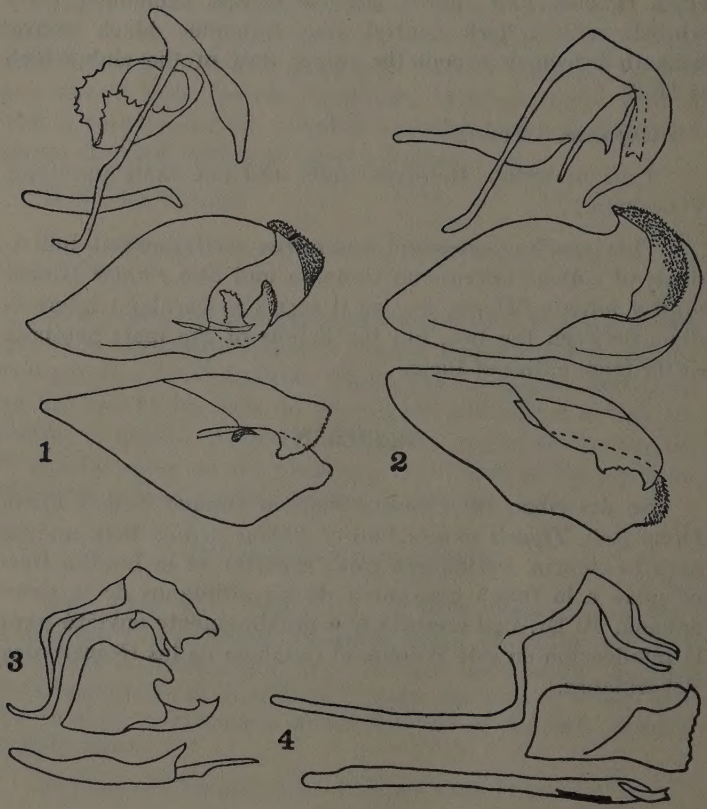
Expanse. 32 mm.

Type material. Holotype male and one male paratype, Venezuela.

This species somewhat resembles well marked individuals of *Papias microsema* Godman and also *Papias (Cobalopsis) latonia* Schaus, in size it seems to be about intermediate between the two, but the details of the male genitalia differ from either of them.

RESUMEN

Se describen las especies *Pellicia rimana* Bell, *Pellicia kuma* Bell, *Tigasis akuris* Bell, y *Papias venias* Bell, nuevas para la ciencia. Pertenecen estas especies de la familia Hesperiidae a la fauna guayanesa de los altiplanos de la Gran Sabana. El Dr. Bell anuncia que proximamente enviará para la publicación en este Boletín, el Catálogo de las Hesperoidea Venezolanas.



Genitalia of: (1) *Pellicia rimana*, n. sp., (2) *Pellicia kuma*, n. sp., (3) *Tigasis akuris* n. sp., (4) *Papias venias* n. sp.